Claims:

1. In a communication device having a speech input device and a voice output device in proximity to one another wherein an output from the voice output device may be feedback to the speech input device, a method of applying loss insertion into the communication device to prevent feedback oscillations/ acoustic instability between the speech input device and the voice output device, comprising the steps of:

applying an identification mark to output from the voice output device;

introducing insertion loss in the inactive path of the speech input device and voice output device based on their relative signal levels in order to reduce the feedback oscillations.

2. The method of claim 1 wherein the step of:

applying an identification mark to output from the voice output device includes a step of:

combining the voice output with a pseudo-noise signal waveform.

3. The method of claim 1 wherein a step of introducing insertion loss includes:

introducing the insertion loss based on a comparison of signal envelopes of the voice output and the speech input.

4. The method of claim 1, wherein the step of:

combining the voice output includes modulating the PN noise with the envelope of the speech signal fed to the voice output device.

5. The method of claim 1 further including a step of:

determining a correlation between the speech input and voice output as modified by the identification marker to differentiate between the input and output.

6. A method of differentiating between two signals in an environment capable of producing interactive feedback oscillations and having similar characteristics, comprising the steps of:

associating an identification mark with one of the signals;

correlating the two signals to determine the level of combining of the two signals; and

identifying the signal having the identification mark.

7. The method of claim 6, including:

the step of associating including a step introducing a PN sequence into one of the signals; and

modulating the PN sequence with the said one of the signals.

8. The method of claim 7, further including:

generating two envelope signals representative of the two signals for determination of relative amplitudes of the two signals; and

modulating one of the envelope signals with the PN sequence.

9. The method of claim 8 wherein the two signals have complementary input and output functions, the method further including:

modulating the output with the PN sequence; and

correlating the input with the modulated output.

10. A speakerphone connected to a communication network, comprising:

a loudspeaker for providing voice output connected to an output path having envelope detection;

a microphone for accepting voice input connected to an input path having envelope detection:

a PN sequence generator connected to modulate a voice output signal with the PN sequence;

a correlator connected to both input and output paths to detect PN correlation between signals in the input and output path; and

a loss control processor to insert loss in one of the paths to prevent signal feedback between the input and output path and responsive to envelope detection in the paths and the correlator.

11. The speakerphone of claim 10 further comprising:

a filter coupling the correlator to the loss control processor.

12. The method of claim 1, wherein the step of:

introducing insertion loss is effective to prevent buildup of feedback where neither incoming nor outgoing speech is present.

13. The method of claim 1, wherein the step of:

introducing an insertion loss by modifying at least one of a gain of received loudspeaker speech and a gain of human input speech.

14. The method of claim 1, including a further step of:

using several frequency sub-bands, each with PN sequence to adjust switched loss in each of the bands.

15. The method of claim 7, including a further step of:

introducing a second PN sequence orthogonal to the PN sequence for adjusting an operation of an echo canceller.